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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/242,461 02/17/99 BOYLE

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EXAMINER

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COLEMAN, B

ART UNIT

PAPER NUMBER

1624

DATE MAILED:

03/02/01

8.

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/242,461

Applicant(s)
BOYLE et al.

Examiner
Brenda Coleman

Group Art Unit
1624



☒ Responsive to communication(s) filed on Dec 26, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-13 is/are pending in the application.

Of the above, claim(s) 2 and 4-6 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1, 3, and 7-13 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☒ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claims 1-13 are pending in the application.

Election/Restriction

1. Applicant's election with traverse of Group II in Paper No. 7 is acknowledged. The traversal is on the ground(s) that there would be no undue burden on the Examiner to consider all of the claims. This is not found persuasive because the compounds represented by the Groups I, II and III are of a different core which are separately classified. A search on a piperazine is not the same as a search on the diazepine of Group III or the non-heterocycles of Group I. The degree of burden in searching the compounds of the instant invention is high. To illustrate the extent of the burden present on the examiner to perform a thorough search, the number of patents present in a search conducted on the elected group where L is a piperazine containing moiety in the compounds of formula I or n is 0 in the compounds of formula A of claim 7 is 697 U.S. patents at this time. This does not include the added search of foreign patents or chemical literature.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 2 and 4-6 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention, the requirement having been traversed in Paper No. 7. It was found that claims 3 and 8 which were previously excluded from Group II,

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contain a part of the elected invention, hence are not being withdrawn from further consideration.

The claims under prosecution in the application are thus, claims 1, 3 and 7-13 (in part).

3. Claims 1, 3 and 7-13 are rejected as being an improper Markush grouping. The recited compounds, while possessing a common utility, present a variable core and, thus, the Markush group represented by the term L in formula I and n in formula A have variably different definitions, rendering the claims clearly improper.

Deletion of non-elected subject matter would overcome this rejection.

Priority

4. Any non-provisional application claiming the benefit of one or more prior filed copending nonprovisional applications or international applications designating the United States of America must contain or be amended to contain in the first sentence of the specification following the title a reference to each such prior application, identifying it by application number (consisting of the series code and serial number) or international application number and international filing date and indicating the relationship of the applications. Cross - references to other related applications may be made when appropriate.

“This application is a national stage entry under 35 U.S.C. § 371 of PCT/GB97/02212, filed August 13, 1997.” is suggested.

Specification

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5. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 3 and 9-13 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The scope of “prodrug” is not adequately enabled. Applicants provide no guidance as how the compounds are made more active *in vivo*. The choice of a “prodrug” will vary from drug to drug. Therefore, more than minimal routine experimentation would be required to determine which prodrug will be suitable for the instant invention.

7. Claims 9 and 12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The scope of claims 9 and 12 are not adequately enabled solely based on farnesylation of mutant ras, provided in the specification. Claims 9 and 12 are the method of treating any and all diseases and/or disorders associated with farnesylation of mutant ras, which is not remotely

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enabled. The scope of claims 9 and 12 includes diseases and/or disorders not even known at this time which may be associated with farnesylation of mutant ras. While treatment of colon, lung and pancreatic tumors may have been linked with farnesyl protein transferase inhibition, the art does not recognize use of such inhibitors as broad based drugs for treating all disorders instantly embraced.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1, 3 and 7-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following reasons apply:

- a) Claims 1, 3 and 9-13 are vague and indefinite in that it is not known what is meant by a group of Formula II. There is no formula II in the claim. See line 26 on page 78 and line 2 on page 79.
- b) Claims 1, 3 and 9-13 are vague and indefinite in that there is a definition for the variable n^1 , however, there is no variable n^1 in the compounds of formula I.
- c) Claims 1, 3 and 9-13 are vague and indefinite in that it is not known how the -S-S- dimer can be made when the S atom of the pyrrole is substituted with a hydrogen atom.

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- d) Claim 7 is vague and indefinite in that there are four variables, i.e. R^2 , R^3 , R^4 and R^5 on formula A, however, there is no definitions for R^2 , R^3 , R^4 and R^5 in the claim.
- e) Claim 7 is vague and indefinite in that there are four variables, i.e. $R^{2'}$, $R^{3'}$, $R^{4'}$ and $R^{5'}$ that are defined in the claim, however, there are no variables $R^{2'}$, $R^{3'}$, $R^{4'}$ and $R^{5'}$ in formula A.
- f) Claim 7 is vague and indefinite in that there are two variables, i.e. R and R^1 within the definition of $R^{6'}$, $R^{7'}$ and $R^{8'}$, however, there is no definitions for R and R^1 in the claim.
- g) Claim 8 is vague and indefinite in that the species in line 23 on page 85 and lines 25-26 on page 86 contain a close parenthesis which is unmatched.
- h) Claim 8 is vague and indefinite in that the species in line 23 on page 85 and lines 25-26 on page 86 contain an open bracket which is unmatched.
- i) Claim 8 is vague and indefinite in that the species in line 23 on page 85 is a duplicate of the species in lines 25-26 on page 86.
- j) Claims 11 and 12 are vague and indefinite in that the terminology "a medicament" does not clarify whether the claim is limited to a compound, composition, or even complex composition.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 3 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leftheris, U.S. Patent No. 5,929,077. The generic structure of U.S. '077 encompasses the instantly claimed compounds as claimed herein. The compounds of U.S. '077 are position isomers of the compounds of the instant invention where the mercapto moiety is attached at the 4-position of the pyrrolidine ring (see examples 1, 4, 5, 6, 7, 8, etc.) instead of the position of the instant invention which is the 3-position. One of ordinary skill in the art at the time the invention was made would have been motivated to substitute the instantly claimed isomer for the known pharmaceutically active agents of U.S. '077. Such modification would be obvious because such structurally related compounds suggest one another and would be expected to share common properties absent a showing of unexpected results. (See *In re Norris*, 84 USPQ 459, on the obviousness of structural isomers).

It is recognized benefit of Great Britain 9617302.6 under 35 USC 119 filed 08-17-96 and Great Britain 9701417.0 filed 01-24-97 is being urged. However, the applicant's foreign priority documents do not describe the invention of this application serial number 09/242,461. Note for benefit under 35 USC 119, there must be clear support (description and enablement) for claims


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instantly rejected herein as was set forth in *In re Scheiber* 199 USPQ 782; *In re Lukach*, 169 USPQ 795; *In re Gostelli*, 10 USPQ 2nd 1614; *Kawai v. Metlesics* 178 USPQ 159. Applicants attention is drawn to the definition of L.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Coleman whose telephone number is (703) 305-1880. The examiner can normally be reached on Monday thru Friday from 9:00 AM to 5:30 PM.

The fax phone number for this Group is (703) 308-4734 for "unofficial" purposes and the actual number for **OFFICIAL** business is **308-4556**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.


Brenda Coleman
February 28, 2001